

# Producing and Marketing Pasture-raised Geese in Vermont

Research supported by VGFA Mini-grant and  
NE-SARE, Summer 2014



Wesley Bascom and Suzanne Podhaizer  
Gozzard City at Provender Farm





**Wesley: Environmental Science B.A., design-build carpentry business, aspiring beginning farmer...**



A photograph of a woman in a brown shirt and dark shorts jumping over a rustic wooden fence. In the foreground, a large flock of white geese with orange beaks is gathered. The scene is set in a grassy field with tall grass and some yellow flowers. The sky is clear and blue. A semi-transparent text box is overlaid at the bottom of the image.

**Suzanne: Chef/Owner of Salt Café, food radio-show host, journalist, fat is her favorite food**

# The wild goose chase to come...

---

Part I: Intro to our operation

Part II: Brooding

Part III: Pasture & feeding

Report from NE-SARE feeding study and VT Grass  
Farmers' Association grant

Part IV: Processing

Part V: Eating & marketing

Report from blind taste test

Part VI: Final thoughts

---



# Gozzard City at Provender Farm

## Provender Farm:

160 Acres

~ 100 acre

woodland

~ 60 acre

pasture

## Multiple Enterprises

~ vegetable farm

~ catering

company

~ sugarbush

~ design/build

~ and us...

## Gozzard City:

~10 acres

~300 geese

~ brooder

~ nighthouse



# The Golden Goose of Sustainability...

- Motivations for raising geese:
  - 75% - 90% of diet derived from foraging grasses / insects
  - Resistant to many common poultry diseases
  - Can co-exist with ruminants on a diversified farm



## History of Goose Production in 18th and 19th century agriculture

- Common on diversified farmsteads in Europe
- A unique product with excellent flavor

(Downtown Cabot?) ↩

19th century child care?



**Inspirational Material...**

**- 2008 TED Talk with Dan Barber**



**Eduardo Sousa - Spain - Fig/Seed/Olive Silvopasture for Foie Gras**

<http://www.swide.com/food-travel/sustainable-foie-gras-from-spain-an-interview-with-eduardo-sousa-extremadura/2013/12/16>



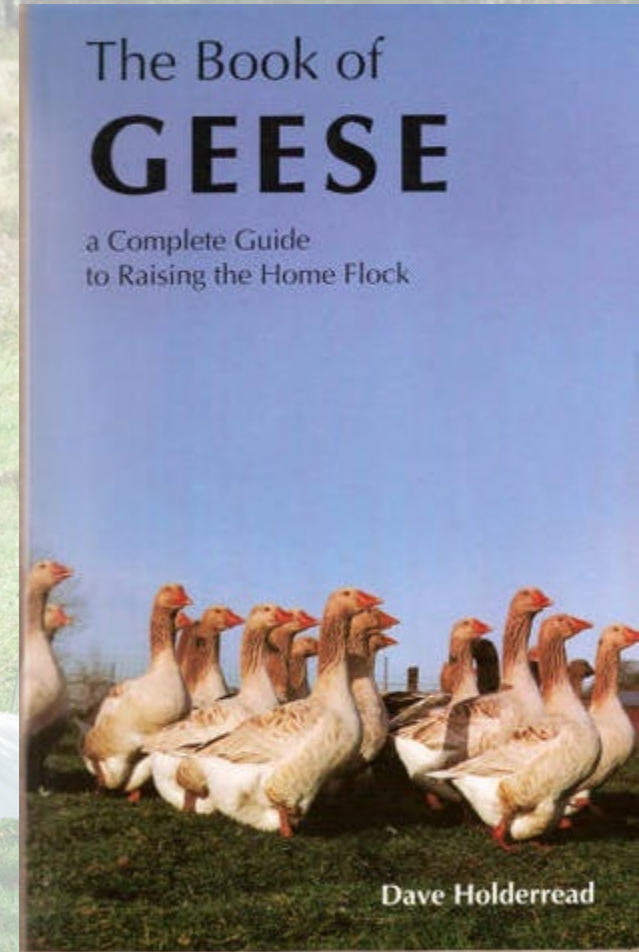
# Do geese have a place in a regenerative farming system?

- How well do geese utilize forages in their diet?
- How does the taste of pastured goose compare with other waterfowl or pastured chicken?
- Can rearing geese be financially generative in Vermont?
  - Livable wage for the farmer's time?
  - Is there a market?
  - What directions lead towards profitability?



## 2014 Season at a glance:

- Year 2
  - 325 goslings total
    - Up from 125 in 2013
  - 10 acres of pasture
    - 24 wk 'extensive pasture' program
  - NESARE / VGFA Supported Data Tracking
  - On-farm Processing
  - Direct retail and restaurant wholesale customers





# Section II: Brooding Weeks 0 - 4

---

## Goals

Follow Holderread's recommendations:

- Temperature regulation by week

- Keep bedding dry

- Grit Access

- < 1% mortality

- Clean and neat

---

---

**325 Day-old goslings** from Metzger Farms in California

---



# The Brooder

---

2013

Small Shed + covered outdoor access.

Electric Heat Lamps

2014

28x52 ft hoop-house (1452 ft<sup>2</sup>)

Heat Lamps + Wood Stove

“Extra warm” zone expanded as they grew

Nipple waterers

Platform scale for weighing

---

# The first 4 weeks...

- Brooder temp < each week
- Access to grassy run
- Full access to grain
- Supplemental niacin in water
- Chopped hay & pine shaving bed
- **Careful observation**
  - Are they huddled?
  - Wet looking?
  - Calm or panicked sounds?
- **Mortality 2014 = 4%**





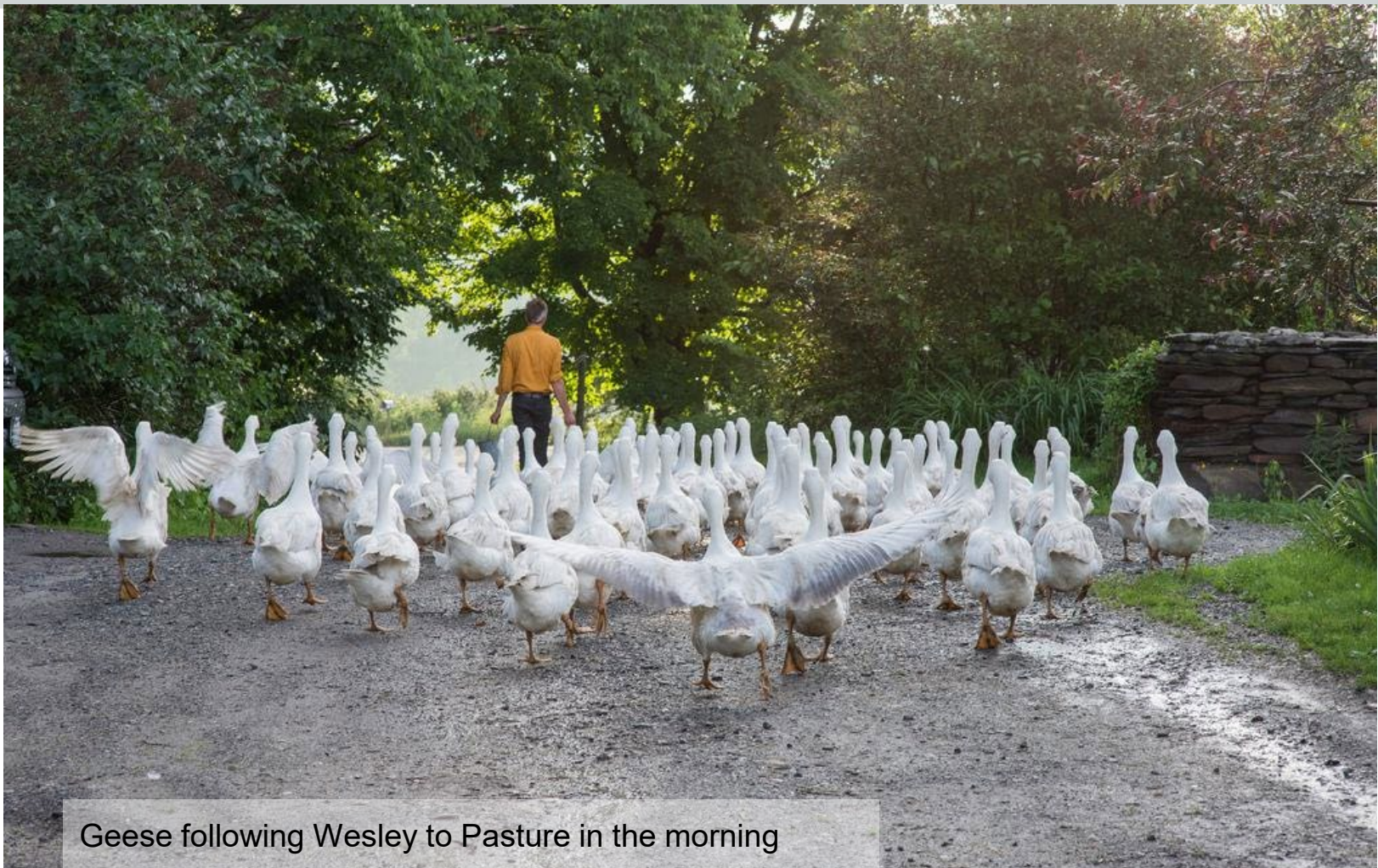
**At ~4 wks old - Geese become more water / rain resistant**

# Pasturing... Week 5 - 20

---

Daily Chores  
Infrastructure

---



Geese following Wesley to Pasture in the morning



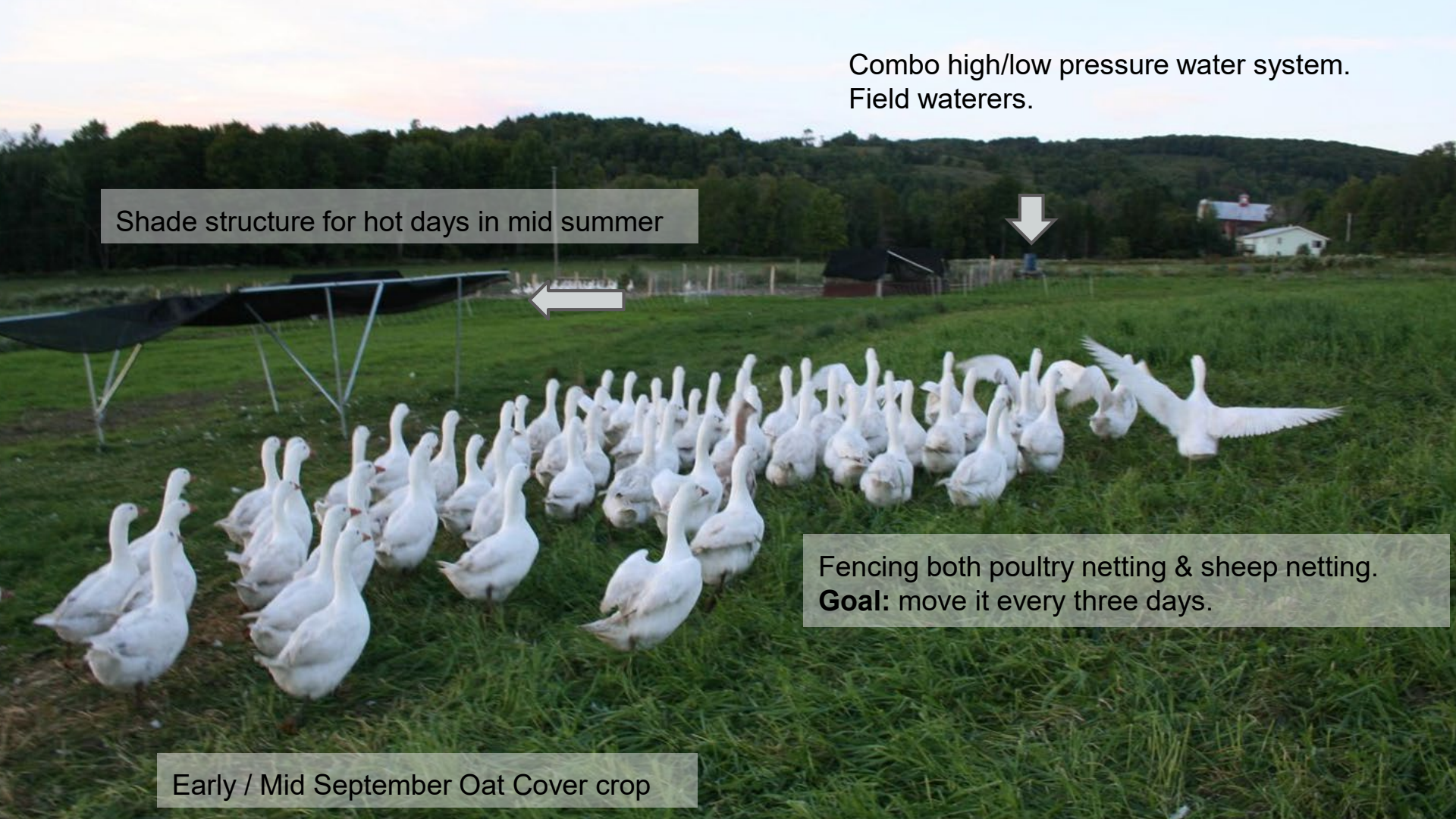
Combo high/low pressure water system.  
Field waterers.

Shade structure for hot days in mid summer



Fencing both poultry netting & sheep netting.  
**Goal:** move it every three days.

Early / Mid September Oat Cover crop





## Goose Night-House: For Predator Protection

Flock on pasture, soon  
to be returning to night  
house

Nipple Waterer supplied by  
low-pressure gravity-fed  
water via  $\frac{3}{4}$  black pipe



Flock in night house

$2500 \text{ ft}^2 = 40 \text{ ft}^2 \text{ per goose}$



A group of white geese with orange beaks are gathered in a dirt enclosure. They are surrounded by a wire mesh fence supported by wooden posts. In the background, there are trees and a sunset sky. A text box at the top center reads "Electric fence on outside deters predators".

Electric fence on outside deters predators

Wire mesh prevents geese from running through fence in night



---

# 2014 Research



---

## Weight gain and pasture

---

# NESARE + VT Grass Farmer's Mini Grant: Economic and Environmental Analysis of Goose Production

---

Weekly tracking

Feed conversion

Weight gain

Trial local feeds for fattening period

Pasture and soil quality tracking

Enterprise analysis

---

# Experimental Design

---

Three flocks of ~ 60 geese

16 weeks on pasture with different levels of grain:

Free choice access to grain

2x Daily - 5 Minutes access twice daily

1x Daily - 5 Minutes access once daily

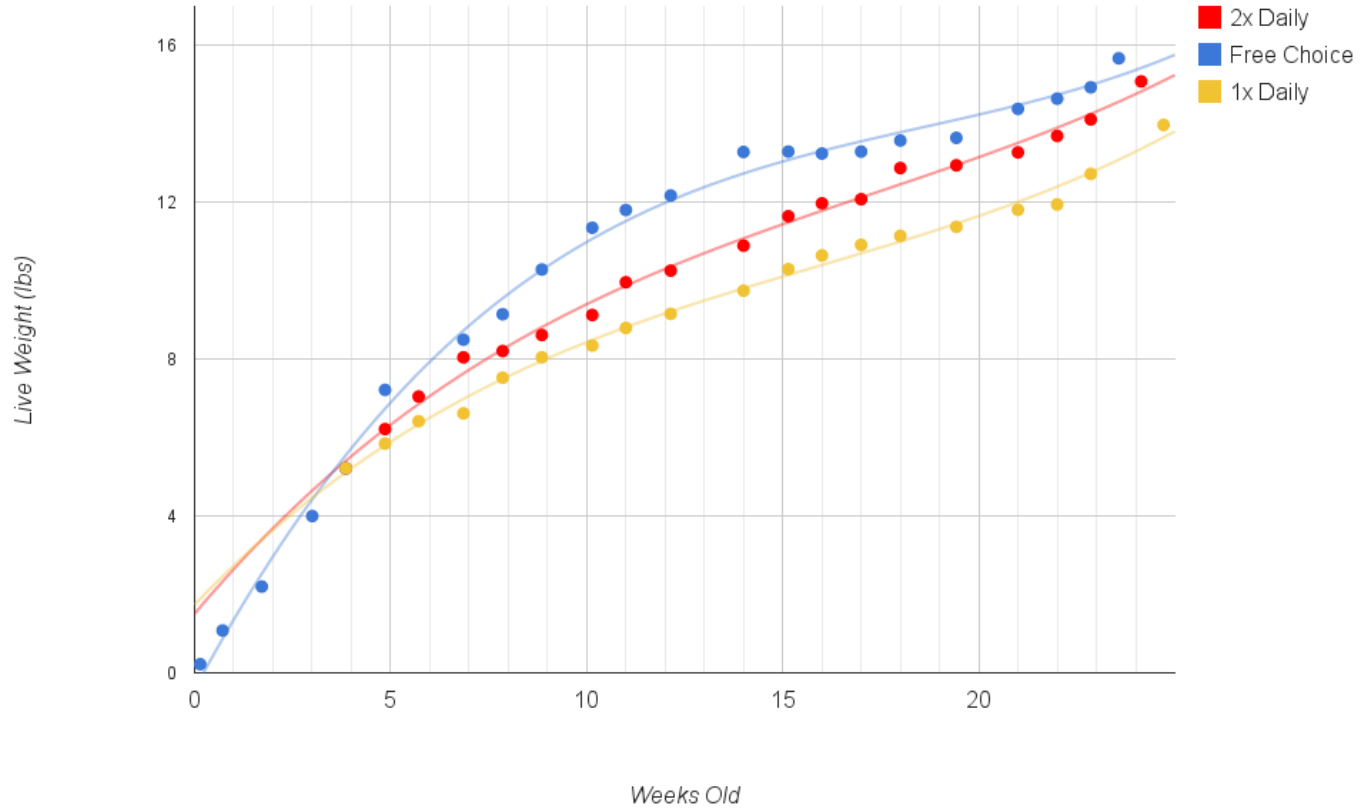
Local Feedstock Fattening Trials:

Apple pomace, root vegetable seconds, standing oats

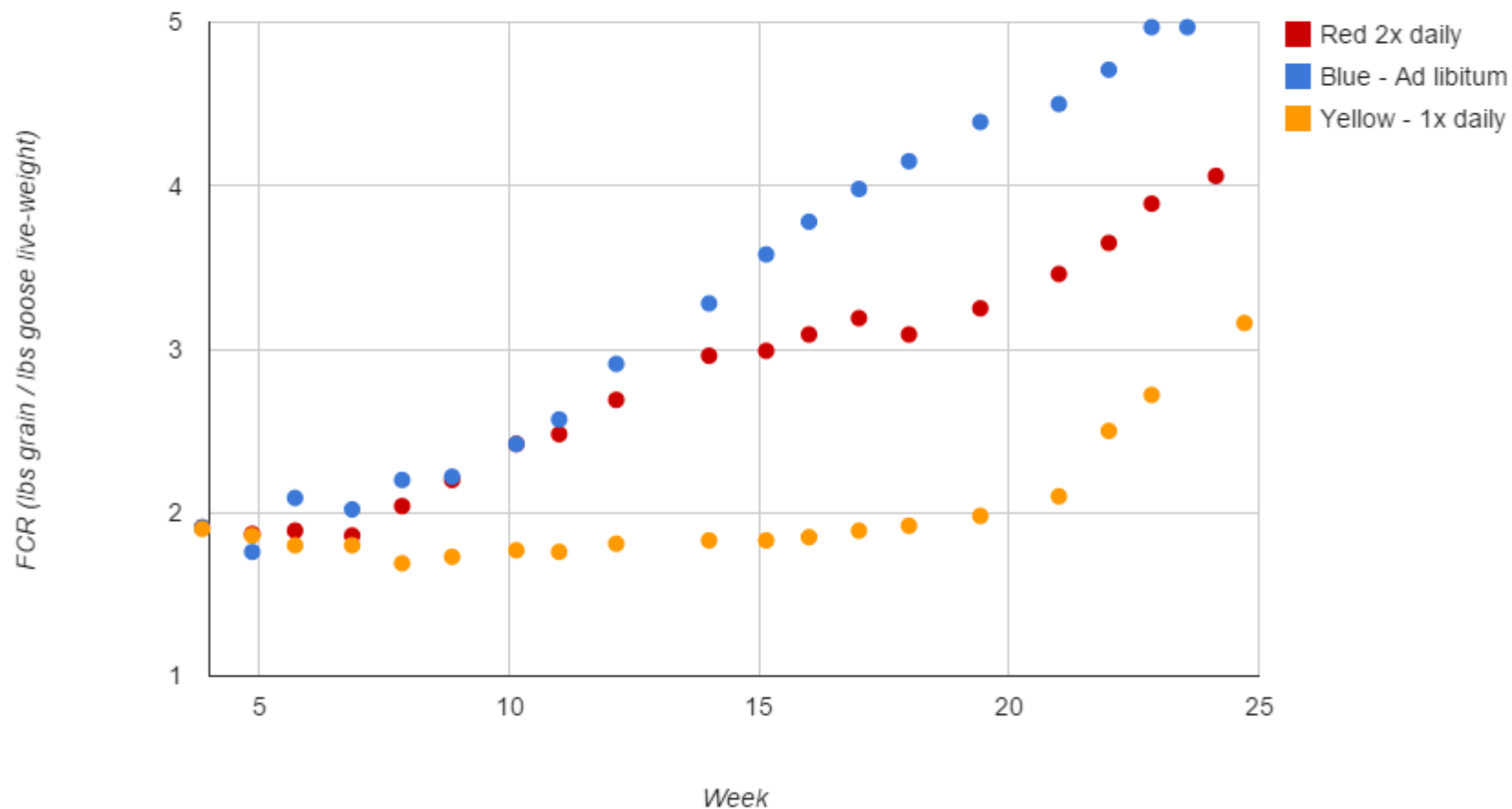
---



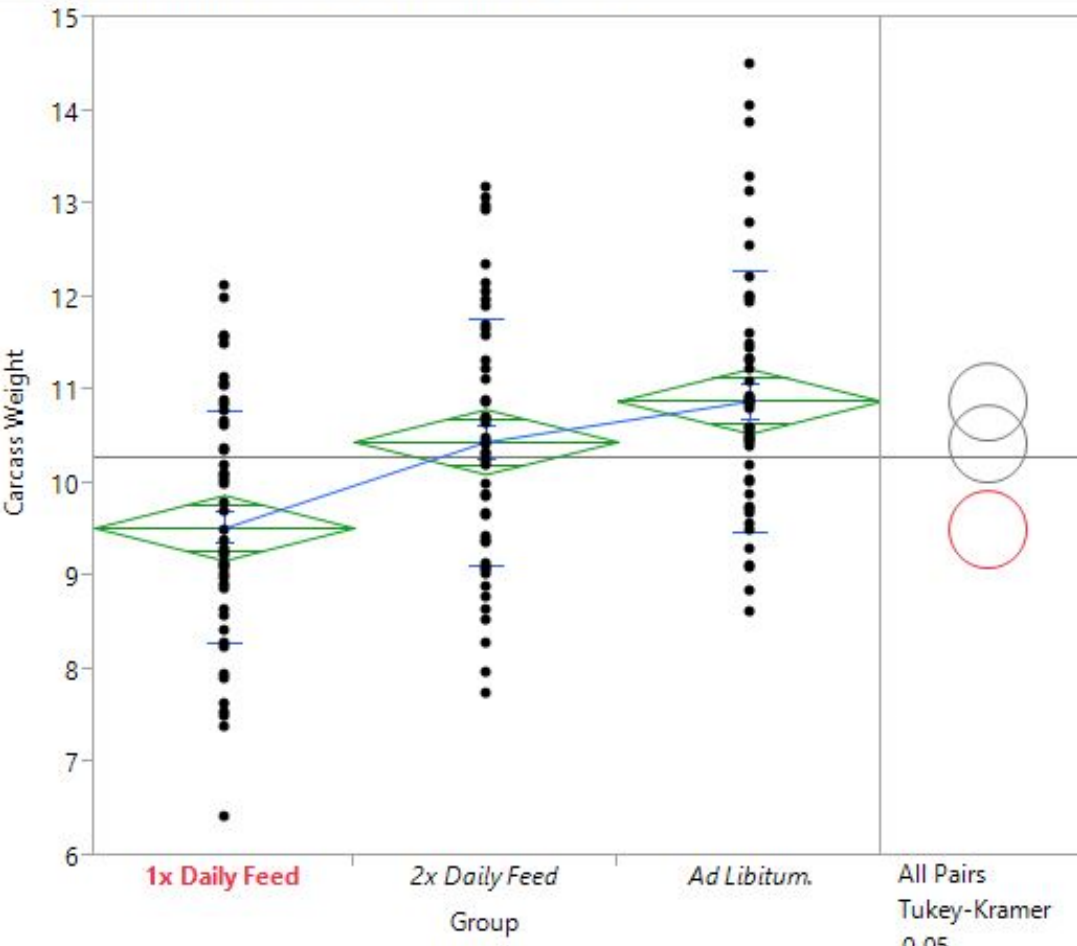
Live weight of geese through season



Feed Conversion Ratio - Summer 2014



## Oneway Analysis of Carcass Weight By Group



Significant Weight Differences between 1x and 2x / Ad Lib.

>>> **Supports feeding 2x daily** VS free-choice during a 24 wk lifecycle





Geese prefer tender young forages...

Our pastures...

- Recovering from 25 yrs haying and no amendments

Our Pasture Management Skills...

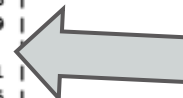
- Nascent

Wesley Bascom  
MORRISON'S CUSTOM FEEDS  
MIKE THRESHER  
PO BOX 149  
BARNET, VT 05821

ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.39	3.06
ME, 1X	1.20	2.65
NEL, 3X	0.70	1.55
NEM, 3X	0.73	1.62
NEG, 3X	0.46	1.01
TDN1X, %	65	

% Moisture	85.3	
% Dry Matter	14.7	
% Crude Protein	3.9	26.6
% Available Protein	3.7	25.2
% ADICP	.2	1.4
% Adjusted Crude Protein	3.9	26.6
Soluble Protein % CP		38
Degradable Protein%CP		68
% NDICP	1.1	7.8
% Acid Detergent Fiber	4.0	27.2
% Neutral Detergent Fiber	6.6	45.2
% Lignin	.6	4.0
% NFC	1.6	10.9
% Starch	.2	1.3
% WSC (Water Sol. Carbs.)	1.4	9.4
% ESC (Simple Sugars)	.6	4.3
% Crude Fat	.7	5.1
% Ash	1.80	12.28
% TDN	10	65
NEL, Mcal/Lb	.10	.67
NEM, Mcal/Lb	.10	.66
NEG, Mcal/Lb	.06	.39
Relative Feed Value		139
% Calcium	.10	.71
% Phosphorus	.07	.45
% Magnesium	.04	.28
% Potassium	.47	3.19
% Sulfur	.05	.32
% Chloride Ion	.05	.31
% Lysine	.14	.93
% Methionine	.05	.35
Horse DE, Mcal/Lb	.15	1.02





-----  
 |Sampled | Recvd |Printed |ST|CO|  
 | |09/22/14|09/23/14| | |  
 -----

Wesley Bascom  
 MORRISON'S CUSTOM FEEDS  
 MIKE THRESHER  
 PO BOX 149  
 BARNET, VT 05821

-----  
 ENERGY TABLE - NRC 2001  
 -----

	Mcal/Lb	Mcal/Kg
DE, 1X	1.43	3.15
ME, 1X	1.25	2.75
NEL, 3X	0.73	1.61
NEM, 3X	0.76	1.68
NEG, 3X	0.49	1.07
-----		
TDN1X, %	67	
-----		

-----  
 Analysis Results  
 -----

Components	As Fed	DM
% Moisture	87.6	
% Dry Matter	12.4	
% Crude Protein	3.0	24.5
% Available Protein	3.0	24.1
% ADICP	.0	.4
% Adjusted Crude Protein	3.0	24.5
Soluble Protein % CP		47
Degradable Protein%CP		78
% NDICP	.5	4.0
% Acid Detergent Fiber	3.2	26.1
% Neutral Detergent Fiber	5.7	45.6
% Lignin	.3	2.8
% NFC	1.6	12.9
% Starch	<0.1	.6
% WSC (Water Sol. Carbs.)	1.7	13.7
% ESC (Simple Sugars)	1.1	8.5
% Crude Fat	.7	5.3
% Ash	1.46	11.76
% TDN	8	67
NEL, Mcal/Lb	.09	.70
NEM, Mcal/Lb	.09	.70
NEG, Mcal/Lb	.05	.43
Relative Feed Value		140
% Calcium	.08	.68
% Phosphorus	.05	.44
% Magnesium	.02	.14
% Potassium	.47	3.78
% Sulfur	.03	.25
% Chloride Ion	.10	.77
% Lysine	.11	.87
% Methionine	.06	.46
Horse DE, Mcal/Lb	.13	1.04

# Fattening Period

---

- Forages
    - Standing Oats and brassicas
      - readily devoured by geese
    - Apple Pomace from cider mill
      - of some interest to geese
    - Root Vegetables
      - not interested - needs to be cooked?
  - Weight gain
    - Grain supplement
-





At ~20 Weeks of age



Fattening Period: ~ 2 weeks confined to night-house and provided free-choice grain



Bedded in wood chips  
and shredded hay







## Section IV: Processing on-farm

# Notes about timing...

---

- Waterfowl molt on a regular cycle
    - plucking when in full feather... easier
    - plucking when pin feathers are emerging... nightmare
  - Examine geese to determine feather-stage
    - ~12 wks
    - ~18 wks
    - ~ 24 wks
-



### **Feed / water removed 8 - 12 hour prior at minimum**

- 1  $\frac{2}{3}$  bushel wax cardboard box containers used to box the geese
  - less expensive than plastic crates

### **Kill Cones**

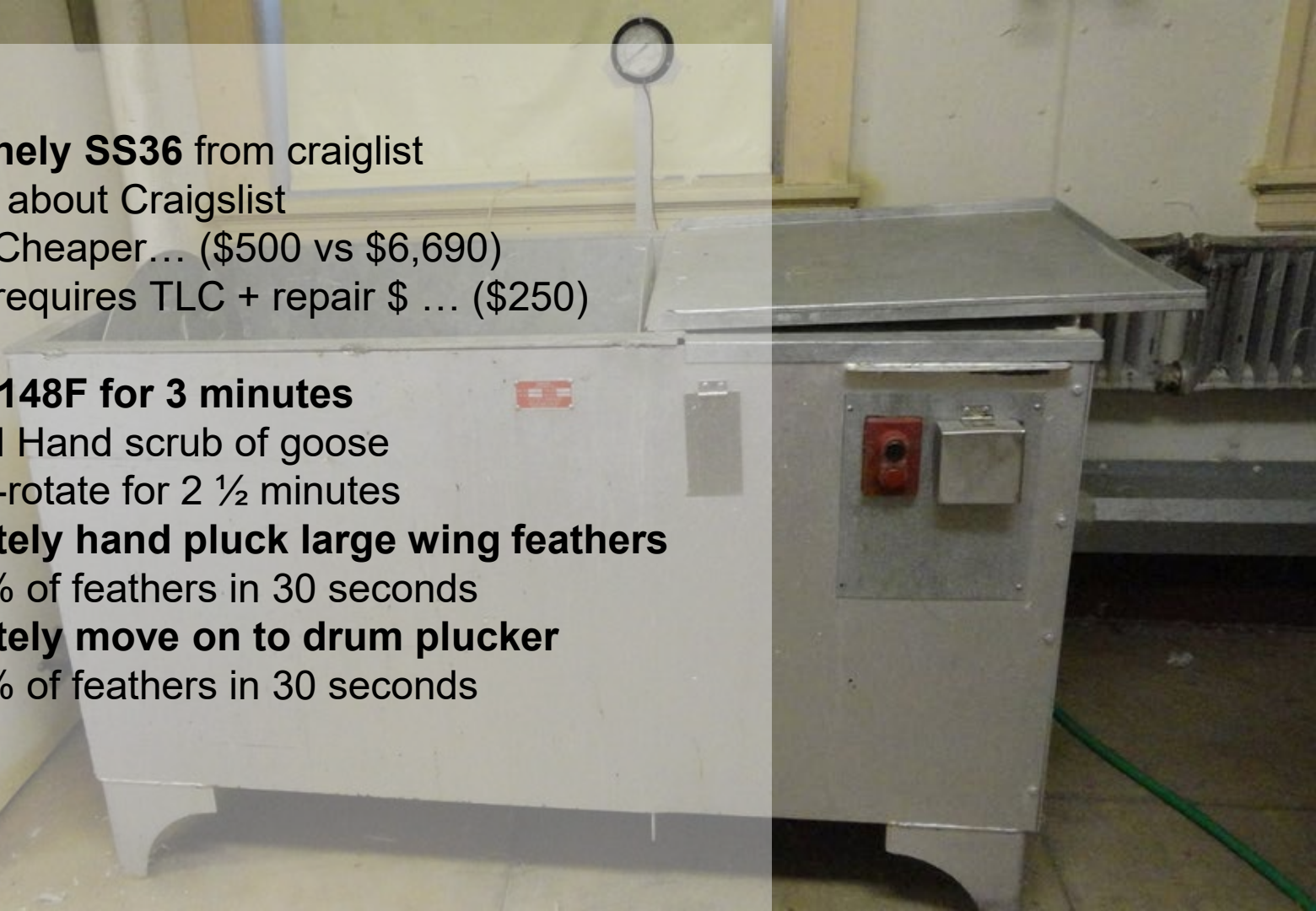
- Sharp knives
- Cut jugular
  - immediate bleed out
  - ~3 - 5 minutes until completely lifeless
- Quickly into scalding

The Process:



## Scalding:

- **Used Ashely SS36** from craigslist
  - Note about Craigslist
    - Cheaper... (\$500 vs \$6,690)
    - requires TLC + repair \$ ... (\$250)
- **Scald at 148F for 3 minutes**
  - Initial Hand scrub of goose
  - Auto-rotate for 2 ½ minutes
- **Immediately hand pluck large wing feathers**
  - ~10% of feathers in 30 seconds
- **Immediately move on to drum plucker**
  - ~80% of feathers in 30 seconds





# Drum Plucker

- ~ 30 seconds
  - Removes ~ 80% of feathers
  - Learning curve
- **Watch out for damage to skin**
  - Torn skin is not attractive or sanitary
  - Plucker fingers lose effectiveness when coated in fat from broken skin...





## Wax: removes fine feathers

- Geese dunked in wax at **~170F for 2-3 sec.**
- Ice-water tub for 2-3 minutes to harden wax
- Hand-work to remove wax / fine feathers
  - Pray for no-pin-feathers
  - Or use tweezers

>>>>> Be Careful of the **messiness**... wax coats everything...

>>>>> **Wax = ~ \$2.50 / lb** and can be re-claimed a few times with hand made cheesecloth filter

Plucking....







### **Evisceration:**

- Plastic shackles
  - Better working height
  - Frees up hands
- Cavity / Intestinal Fat
  - Delicious when Rendered
  - ~ 1 minute extra
- Skill/Experience = Speed
  - ~ 5 min./goose

### **Chilling:**

- Food grade, 55-gallon barrels
- 12 lbs ice / goose
  - includes wax chill water

### **Bagging / Weighing:**

- Poultry shrink bags + zip ties
- Scalding
- Table-top digital scale

# Processing Labor: Field to Freezer

---

2013 - 1 ½ hrs per goose

DIY kill cones, hand-dunk scalding, hand plucking, wax, SS tables for evisceration, many people...

2014 - 40 min. average -- 25 min. best time

Turkey Kill cones, SS36 Ashley Scalding, Drum plucker, wax, shackles.

2015 - Goal: 15 to 20 minutes per goose

Experience with birds / equipment

3 dedicated people for whole batch run (no substitutes!)

---

# Processing Challenges

---

Inspection - no local capacity for waterfowl

Molting cycle vs. facility schedule?

On-farm Processing Exemption

Using existing farm labor

Learning curve

Timing of processing vs. rest of farm work

Equipment Costs + utilization rate

Using Itinerant on-farm processors

Clean carcass and cost?

---



# Budget Analysis: Cost of Goose Sold

What if you were to raise a flock of 60 geese on pasture?

	Final Weight	9.5 Lbs	10.52 Lbs	10.87 Lbs
24 Weeks	1x Daily	2x Daily	Free Choice	
Day Old Goslings	\$1.10	\$1.00	\$0.96	
Brooding Supplies (bedding / light / heat)	\$0.34	\$0.31	\$0.22	
Grain @ \$900 / ton	\$2.10	\$2.64	\$3.22	
Slaughter Materials (ice! / wax / propane / bags / cleaners)	\$0.55	\$0.50	\$0.48	
Misc. (delivery fuel, website, office supplies)	\$0.26	\$0.24	\$0.23	
Labor	\$3.77	\$3.44	\$3.30	
Price Per Pound	\$8.12	\$8.13	\$8.41	

# Section IV: Taste Test & Marketing

---

NE-SARE Taste Test

Creating retail and wholesale markets

Cost barriers

Legal challenges

Marketing opportunities

---

# Set-Up

---

## Blind taste test with 8 participants

- Used techniques from classic “sensory evaluation” training

- Gathered qualitative and quantitative data

- Small sample size = low statistical significance, but data is still telling

- Meat sprinkled lightly with salt to bring out flavors, otherwise, unseasoned

---



# Goals

---

## Two tasks

- 1) Evaluate preferences for four poultry breasts:  
Chicken / Turkey / Duck / Goose
- 2) Compare texture and flavor of geese from our  
different test groups

Rate items on a scale of 1-5

1 - displeasing

5 - pleasing

---

# Deliciousness Comparison

---

## The breast tasting progression

Chicken: mild, pleasant, fresh, (3.44 out of 5)

Turkey: pleasant, fragrant, meaty (3.31 out of 5)

Duck: meaty, rich, livery (4.28 out of 5)

Goose: savory, robust, juicy (4.56 out of 5)



# Price Sensitivity

---

Asked tasters what they would pay for each product...

## Chicken

Willing to pay retail: < \$7.00/lb

Actual retail cost: \$9.49/lb

## Turkey

Willing to pay retail: < \$7.00/lb

Actual retail cost: \$7.99/lb





# Price Sensitivity

---

## Duck

Willing to pay retail: < \$11.50/lb

Actual retail cost: \$14.00/lb

## Goose

Willing to pay retail: < \$13.00/lb

Projected retail cost: \$ 16.00/lb



# Rankings

---

	<b>1 - Least favorite</b>	<b>2</b>	<b>3</b>	<b>4 - Favorite</b>
<b>Chicken</b>	4	3	x	x
<b>Turkey</b>	3	3	x	2
<b>Duck</b>	x	1	5	2
<b>Goose</b>	x	x	2	5

# Poultry vs. Poultry Takeaways...

---

No participants willing to pay actual cost

Waterfowl tastes delicious!

Weekday vs. weekend vs. special occasion

---



# Between Study Groups

---

5 of 8 participants could tell the difference!

Grain 1x Daily: slightly tougher, less fatty

Grain 2x Daily: mix of fat & flavor

Free Choice Grain: fattiest & most tender

More people preferred the 2x per day group

---

# What words sell meat?

# It's all about the ethics...

# Organic / Grassfed

# Local / Pastured

# Heritage / Vermont-raised

These words made no impact...

# Delicious / Healthy / Fatty / Lean / Luxurious



# VT Regulations

---

Up to 1000 birds can be processed on-farm  
w/out inspection

- Facilities must be inspectable

- Birds must be sold whole

- Retail customers must come to farm

- Can deliver to wholesale customers

---



# Challenge: Lack of Familiarity

- Most people have never cooked goose
  - Even Chefs
  - Except Europeans!
  - Recipes
  - Education
    - Distinguishing goose from other products
- Most farm-to-table restaurants have meat supply lines in place. It can be hard to break in.
- + Premium Price
  - ... Not an ideal environment in which to market a new product...





## Challenge: Legalese

- On Farm Processing Exemption
  - Restaurants
  - Retail On-farm only
    - \$9.50/lb plus a drive to Cabot? That's pricey.
  - No sales to butcher shops or retail stores
- New legislation?
  - Bill H. 52 -- currently being drafted...
    - Could create more opportunities for small and medium scale poultry farmers.





## The Competition...

Via internet + shipping  
= \$11.50 - \$14.00 per pound  
Limited local availability @  
specialty food stores  
~ \$14/lb



D'Artagnan = ~\$15/lb +



Be the first to [WRITE A REVIEW](#)

## All-Natural Free-Range Goose

QUANTITY



TOTAL PRICE

\$220.99

[ADD TO CART](#)

AVAILABILITY:

This item is currently not available.

**Please note: Frozen items may thaw in transit.**

Nothing evokes the holidays like a succulent roasted goose on the table. And for an impressive and traditional presentation, a goose cannot be beat.



# Opportunities

---

Goose tastes really, really good.

- Sold to premier local restaurants

- People will seek it out once they've tried it?!

Customers come to Salt just to try the goose

In Vermont, H.52 could help

- Deliver to retail customers

- Wholesale to stores

---

---

# Part III: Reflections and Things to Try

---

Whats good for the goose is not always good for the farmer...

---

# Challenges of raising geese

---

High cost of Goslings / COGS

Market

- Price sensitivity?

- Culinary culture? (vs Europe or Canada)

Monogastric Digestion

- limits use of pasture forage

---

# Opportunities

---

## Low Feed Conversion Ratio

- Restrict feed

- 12 wk or 18 wk processing timeframe

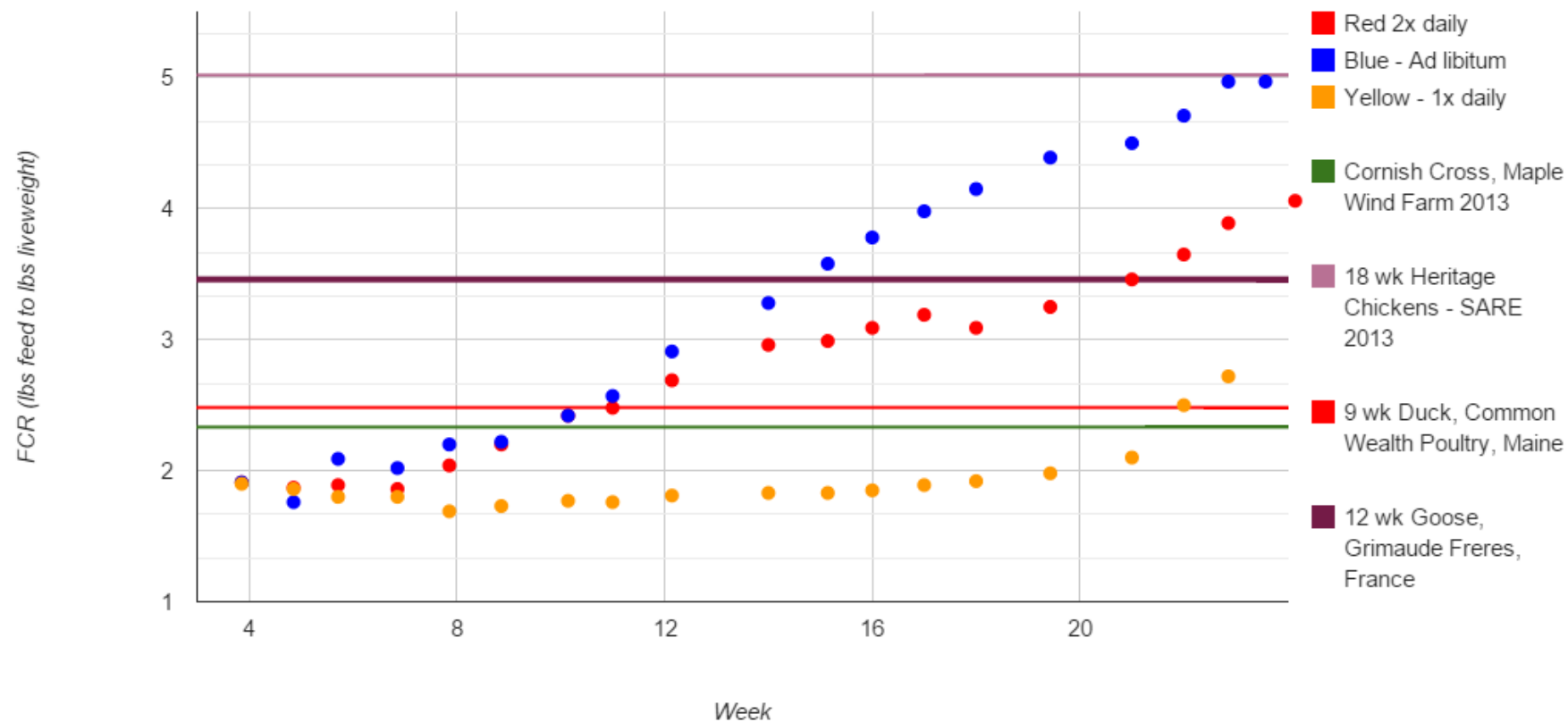
## Niche Market currently served by few national mail-order producers

- Competition pricing = \$12 - \$15 /lb

---



## FCR -- GozzardCity and neighbors



# What if we process at 12 weeks?

	Final Weight	7.21 Lbs	7.76 Lbs	8.5 Lbs
12 Weeks		1x Daily	2x Daily	Free Choice
Day Old Goslings		\$1.64	\$1.46	\$1.23
Brooding Supplies (bedding / light / heat)		\$0.38	\$0.34	\$0.28
Grain		\$1.16	\$1.73	\$1.87
Slaughter Materials (ice! / wax / propane / bags / cleaners)		\$0.81	\$0.73	\$0.61
Misc. (delivery fuel, website, office supplies)		\$0.39	\$0.35	\$0.29
Labor		\$3.58	\$3.19	\$2.69
	Price Per Pound	\$7.96	\$7.80	\$6.97

# What if we process at 18 weeks?

Final Weight	8.26 Lbs	8.5 Lbs	9.8 Lbs
18 Weeks	1x Daily	2x Daily	Free Choice
Day Old Goslings	\$1.35	\$1.16	\$1.10
Brooding Supplies (bedding / light / heat)	\$0.31	\$0.27	\$0.25
Grain	\$1.23	\$1.99	\$2.67
Slaughter Materials (ice! / wax / propane / bags / cleaners)	\$0.67	\$0.58	\$0.55
Misc. (delivery fuel, website, office supplies)	\$0.32	\$0.28	\$0.26
Labor	\$4.02	\$3.48	\$3.30
Price Per Pound	\$7.90	\$7.76	\$8.13

# Take-aways / Reflections

---

12 week processing

Free Choice grain + pasture

18 wk processing range

Limit grain to 2x Daily + pasture

Partnership with inspected processing facility?

Specialty sales out of state to existing urban markets

---



# Thank You!

For More information email:

**Gozzardcity@gmail.com**



Northeast Organic



Farming Association  
of Vermont



NORTHEAST  
**SARE**



Sustainable Agriculture  
Research & Education